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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Atul N. Hatalkar   Art Unit: 2155
Serial No.: 09/753,086   Examiner: Benjamin R.
Filed   : December 28, 2000   Bruckart
Title   : BROADCAST COMMUNICATION SYSTEM WITH DYNAMIC CLIENT-
             GROUP MEMBERSHIPS

Mail Stop AF
Commissioner For Patents
P.O. Box 1450
Alexandria, Va 22313-1450

DECLARATION OF ATUL N. HATALKAR UNDER 37 C.F.R. § 1.131

I, Atul N. Hatalkar, currently residing at 1402 W. Hopi Drive, Chandler, AZ 85224, do hereby declare as follows:

1.   I am the sole inventor of the invention claimed in the above-identified patent application.

2.   Prior to November 28, 2000, I invented the subject matter of the claims of this patent application while being an employee of Intel Corporation, currently having a place of business at 5000 W. Chandler Blvd., Chandler, AZ 85226. At least as early as November 28, 2000 I conceived of and proceeded to diligently reduce to practice the invention claimed in the above-referenced patent application.

3.   This is evidenced by a written invention disclosure, which was the basis of the above-referenced patent application, and which I prepared for submission to patent counsel at least as early as July 28, 2000. The invention disclosure contents describe the invention, and a redacted copy of the invention disclosure is included along with this declaration which bears a received stamp of July 31, 2000 by the Patent Database Group of the Intel Legal Team. The invention disclosure form itself is considered confidential to Intel Corporation, and each date on the form supports statement 2 above.

4.   The U.S. Patent No. 6,928,081 cited by the U.S. Patent and Trademark Office is issued from the U.S. Application 09/723,482 filed on November 28, 2000, and no priority filing information is included in issued U.S. Patent No. 6,928,081. Therefore, the evidence and statement of facts described in this declaration provides a prima facie showing that the invention

date of our claimed invention was at least prior to the earliest priority date of the U.S. Patent No. 6,928,081.

5.   I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Respectfully submitted,

Date:____**Oct 03, 2005**____   _____
                                   Atul N. Hatalkar

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..:TEL INVENTION DISCLOS ...
ATTORNEY-CLIENT PRIVILEGED COMMUNICATION

AUG - 2 2000

DATE: JULY 27, 2000

Inventor: HATALKAR _____ ATUL _____ N
  Last Name   First Name   Middle Initial

Phone

Citizenship: INDIA

Home Address: 1402 W. HOPI DRIVE

City CHANDLER   State AZ   Zip 85224   Country USA

Title of Invention: MECHANISM AND ARCHITECTURE TO COMMUNICATE CLIENT-GROUP MEMBERSHIPS OVER THE BROADCAST CHANNEL

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INVENTION DESCRIPTION

The context

System Management Suite (SMS) is a unidirectional communication scheme that uses broadcast channel to send messages and software modules from head-end to client devices. SMM is one of the capabilities offered in SMS.

At any given time, there are many active SMM messages in the network. Generally, not all SMM messages are useful or meaningful to all client devices. However, in simple implementations, all SMM messages may be sent to all client devices. Each client device is expected to receive all messages from the broadcast stream, interpret them, and use the ones that are applicable in its context. As number of messages and number of client devices in the network increase, one soon reaches a level where it becomes very wasteful for client devices to receive and interpret all messages and throw away a majority of them.

The SMM scheme allows for grouping of clients. The groups may be defined based on various criteria. The client devices and groups have many-to-many relationships – meaning that a group consists of multiple client devices and a client device may belong to more than one group. With the grouping in place, the head-end targets an SMM message to a group of clients, rather than to all clients. Each client device knows the groups that it belongs to. While receiving the message from the broadcast stream, a client device checks if it belongs to the target group of the message. The client device receives and interprets the message only when the groups match; thus leading to efficient operations.

The problem

The scheme outlined in above example works well as long as assignment of client devices to groups is done a priory. Once a client device is delivered to the consumer, there is no simple way to modify its membership in groups.

What one really needs is a mechanism that would allow modifications in group-memberships, creation of new groups, and retiring of obsolete groups even after the affected client devices are delivered to consumers.

The solution

This disclosure offers an end-to-end scheme to solve the problem.
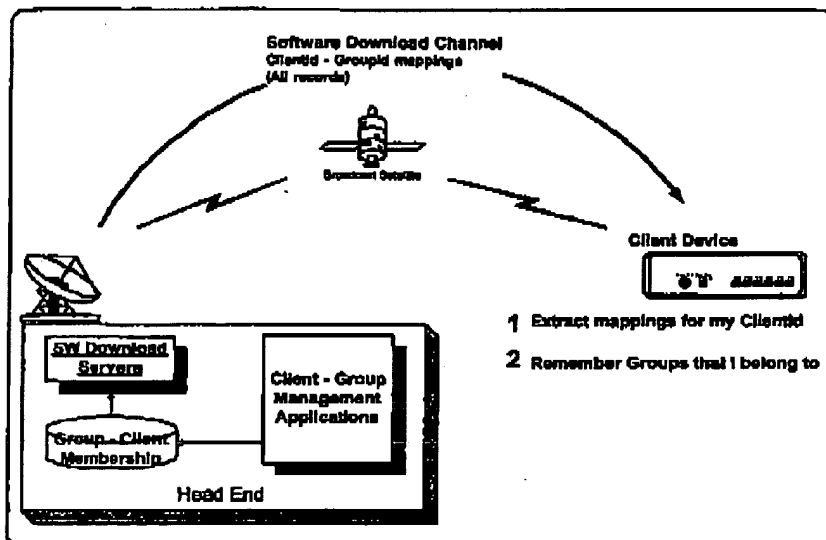
In this scheme, the head-end dynamically manages group-memberships of client devices to satisfy changing needs of the business. Operations performed by the head-end may include (but are not limited to): change list of client devices in a group, create new group, remove a group, merge multiple groups into single group, etc.

The head-end transmits the group-membership "database" to all client devices using software download mechanisms over the broadcast channel.

Each client device receives the group information database from the broadcast streams and updates its internal records to remember all groups that it belongs to.

The head-end continues to broadcast group-membership database periodically (say, every four hours). This ensures that the clients that were not ready (e.g. powered off) to receive updated version of the database get the latest information when they become ready.

...or example: one can download online catalog of kids-merchandise on client devices of consumers who respond to surveys indicating that there are young kids in household. All client-devices of such consumers are members of a "kids-stuff" group. As survey responses change over period of time, the same client-devices may be reassigned to other groups.

The entire concept of targeting message for data delivery is very new. There is no known design or implementation of dynamic groupings for the purpose of selectively targeting client devices.
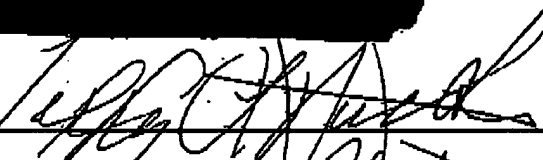
DATE: _7/28/00_   WITNESS: _____

DATE: _7/28/00_   SUPERVISOR: _____